

S/133/62/000/001/002/010
A054/A127

AUTHORS: Lapotyshkin, N. M., Boychenko, M. S., Candidates of Technical Sciences, Leytes, A. V., Akimova, Ye. I., Slivchanskaya, V. V., Engineers

TITLE: Special features of crystallization in continuous casting

PERIODICAL: Stal', ²²no. 1, 1962, 30 - 33

TEXT: There is no definite opinion concerning the effect of the crystallization rate on the grain structure and chemical composition of continuous castings. To solve this problem, tests were carried out at the TsNIICHM and a new method was applied to determine the crystallization rate, which is based on the distance between the dendrite axes: when the solidification rate is increased, the interaxial distance between secondary dendrites decreases. The tests were carried out with carbon steel and transformer steel. To obtain a clear picture of the dendritic structure, the carbon steels were water-hardened at 950 - 1,050°C and annealed (in water) at 650°C. The crystallization rate at various depths was also checked by introducing the radioactive isotope of sulfur (S^{35}), for "45" and Ct .3 (St.3) steels, poured at a 0.7 m/min rate in crystallizers, 200 x 200 mm

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and 175 x 420 mm size. The St.3 steel was partly poured in a stationary 175 x 420 mm crystallizer and partly by bottom pouring, into conventional molds (180 x 560 and 300 x 300 mm in size). The metal temperature prior to pouring was 1,560 - 1,570°C, the pouring rate in the continuous equipment: 0.7 m/min and in the standard molds: 0.4 - 0.6 m/min. The macrostructural tests showed that the zone of acicular dendrites was about twice that of the ingots obtained in the standard mold. The density of the dendrite zone in continuous casting was also higher than in the standard ones. By measuring the interaxial distance between dendrites it was found that the solidification rate in continuous castings was about 30% higher than in the standard molds. The difference was most striking in a 10 - 50 mm thick layer under the surface of the casting. The surface-to-volume ratio also affects the solidification rate; the 300 x 300 mm ingots solidify slower than the 180 x 560 mm ingots. The interaxial distance of secondary dendrites in carbon steel and transformer steel ingots first increased steadily, upon approximating the axial zone of the ingot, then decreased slightly due to the change in the ratio of the solidifying surface to the volume of the still liquid metal. Other factors of continuous casting (the carbon content of the steel and its temperature in 200 x 200 mm ingots, the rate of pouring and the intensity of second-

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ary cooling) were also studied. In these tests, 4 heats of "45" steel and Y 7 (U7) steel were investigated. The increase in temperature during the pouring of U7 steel slightly reduced the crystallization rate. An increase in the pouring rate (from 0.5 to 0.7 m/min) decreased the solidification rate by about 0.3 cm/min. As to the intensity of secondary cooling, it was established that if 2 l/sec cooling water (0.5 l per 1 kg steel) were consumed, the solidification rate somewhat increased, while upon raising the water consumption to 5 l/sec, this had no effect on the average solidification rate. The relation between the crystallization rate in the cross section of the ingot, the structure and the distribution of non-metallic inclusions was studied in 200 x 200 mm continuous castings. The distribution of inclusions depended in the first place on the arrangement of structural zones. The smallest amount of inclusions was found in the fine-grained zone of the skin, while the amount of inclusions increased in the zone of acicular grains and still more in the transient zone between acicular and spheroidal grains. Dendritic liquation was studied in continuous and standard castings of trans-former steel with 4.2 - 4.4% Si content, by comparing the microhardness of the dendrite axes and of the interaxial zones. Greater hardness was observed for the interaxial zones than for the axial parts. The differences in ΔH_B indicated the degree of dendritic liquation, which was higher for the standard castings than

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for the continuous ones. The ΔH_B values gradually decreased starting from a depth of 60 mm below the surface to the central sections. In continuous castings, therefore, the dendritic non-homogeneity was lower than in the standard castings. There are 3 figures and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. The reference to the English-language publication reads as follows: D. M. Lewis, I. Savage, Metallurgical Reviews, 1956, v. 1, pt. 1.

Card 4/4

BOYCHENKO, M.S.

"Continuous casting--present and future perspectives"

To be submitted for the International Symposium on the Application of modern technical practices in the iron and steel industry to developing countries.

Prague, Czechoslovakia
November 11-26, 1963

BOYCHENKO, N. G.

Fermentation Industry

Dissertation: "An Investigation of the Filtration Properties of Mash in the Brewing Industry." Cand Tech Sci, Kiev Technological Inst of the Food Industry imeni Mikoyan, 9 April 1954.
(Pravda Ukrainy Kiev, 23 March 1954)

SO: SUM 213, 20 Sept 1954

BOICHENKO, N.G.

Utilization of boiler room waste gases for refrigeration
purposes in the brewing industry. Trudy KTIPP no.17:145-149
'57. (MIRA 13:1)

(Refrigeration and refrigerating machines)
(Brewing industry)

BOYCHENKO, H.G.

Investigating the filtration of mash in brewing. Trudy KTIPP no.19:
137-148 '58. (MIRA 12:12)
(Filters and filtration) (Brewing)

FEDOROV, P.D.; STABNIKOV, V.N.; GLYBIN, I.P.; BELYAVSKIY, V.V.; BOYCHENKO,
N.G.; BUZYKIN, N.A.; GOLOVIN, P.V.; DEMCHUK, A.P.; ZHURA, K.D.;
KORCHINSKIY, A.I.; KURILENKO, O.D.; KLIMKO, N.G.; LITVAK, I.M.;
MAL'TSEV, P.M.; NIKOLAYCHUK, I.M.; NAUMOV, A.L.; POPOV, V.D.; RED'KO,
P.A.; SKOBLO, D.I.; KHRISTENKO, M.M.; TSYGANKOV, P.S.; SHLIFCHENKO,
Z.S.; SHVETSOV, P.D.

Gleb Mikhailovich Znamenski; obituary. Sakh. prom. 31 no.12:68
D '57.

(Znamenski, Gleb Mikhailovich, 1901-1957) (MIRA 11:1)

SIZOV, D. (Moskovskaya obl.); BASHKIROV, I., pozharney inspektor
(Saratovskaya obl.); SHIRYAYEV, V. (Perm'); BOYCHENKO, P.;
SHURAKOV, N.

Readers' letters. Pesh. delo 9 no.6:32 Je '63.

(MIRA 16:8)

1. Rabotniki pozharney okhrany Perm'skogo velozavoda, Perm'
(for Boychenko, Shurakov).

BOYCHENKO, Pavel Omfriyevich[deceased]; SKORYNINA, N.P., red.

DECEASED

1964

[Determining the plastic limit and consistency of clayey soils by the cone method; methodological instructions]
Opređenje predelov plastichnosti i konsistentsii glinistykh gruntov metodom konusa; metodicheskie ukazaniia. Leningrad, Izd-vo Leningr. univ., 1964. 46 p.

(MIRA 17:10)

BOYCHENKO, Pavel Onufriyevich

[Determining the plasticity and consistency limits of
clay soils by the cone method; methods and instructions]
Opredelenie predelov plastichnosti i konsistentsii gli-
nistykh gruntov metodom konusa; metody ukazaniia. Lenin-
grad, Izd-vo Leningr. univ., 1964. 46 p. (MIRA 19:1)

Handwritten: Romanovich
PUTILIN, Vladimir Georgiyevich; BOYCHENKO, Pavel Romanovich; OKRAINETS, G.A.,
kand.tekhn.nauk, dots., otvetstvennyy red.; SHEVCHENKO, A.S., red.;
TROPIMENKO, A.S., tekhn.red.

[Organizing and conducting industrial practice training in building
schools] Organizatsiia i metodika provedeniia proizvodstvennoi
praktiki v stroitel'nom tekhnikum. Khar'kov, Izd-vo Khar'kovskogo
ordean Trudovogo Krasnogo Znameni gos.univ. im. A.M.Gor'kogo, 1957.
119 p. (MIRA 11:3)

(Building--Study and teaching)

SOLDATENKOV, P.F., prof., doktor biolog.nauk; FILATOVICH, V.V., kand.
sel'skokhoz.nauk; KOMOVATOV, V.S.; BOYCHENKO, P.Ya..

Butterfat content of milk in Tagil cattle depending on the amount
of fat and proteins in feed rations of growing calves. Agrobio-
logia no.3:349-357 My-Je '59. (MIRA 12:9)

1. Sverdlovskiy sel'skokhozyaystvennyy institut.
(Calves--Feeding and feeds) (Milk)

GOLUBEV, T.M., doktor tekhn.nauk, prof.; CHELYSHEV, N.A., kand.tekhn.nauk,
dots.; KAFTANOV, M.P., inzh.; KUZNETSOV, N.Ye., inzh.;
BOYCHENKO, S.M., inzh.; ZHURAVLEV, M.A., inzh.

Operations of a forge blooming mill with use of automatic
control. Izv.vys.ucheb.sav.; chern.met. 2 no.7:59-74
Jl '59. (MIRA 13:2)

1. Sibirskiy metallurgicheskiy institut. Rekomendovano kafedroy
obrabotki metallov davleniyem Sibirskogo metallurgicheskogo
instituta.

(Rolling mills) (Automatic control)

BOYCHENKO, S.M., inzh.; SHAPIRO, L.P.

Operation of the Kiev municipal outdoor lighting system.
Svetotekhnika 8 no.8:24-25 Ag '62. (MIRA 15:7)

1. Upravleniye ekspluatatsii elektrosetey naruzhnogo
osveshcheniya, Kiyev.

(Kiev--Electric lighting)

BOYCHENKO, V.

Initiative finds wings. Zhil.-kom. khoz. 12 no.5:4-5 My '62.
(MIRA 15:10)

1. Nachal'nik Zhilishchnogo upravleniya ispolnitel'nogo komiteta
Leningradakogo rayonnogo soveta Moskvyy.

(Moscow—Apartment houses—Maintenance and repair)

BOYCHENKO, V.I., inzhener; IRZ, P.V., inzhener.

Strength of welded contact joints subjected to vibration. Elek.
sta. 28 no. 5:83-85 N^y '57. (MIRA 10:6)

(Welding)

BOYCHENKO, V. I.

AUTHOR:

Boychenko, V. I., Engineer

105-58-4-18/37

TITLE:

The Effect of the Leads on the Current Distribution in Plate Circuits of a Mercury-Arc Rectifier and its Localization (Vliyaniye soyedinitel'nykh provodov na tokoraspredeleniye v anodnykh tsepyakh rtutnogo vypryamitelya i yego lokalizatsiya)

PERIODICAL:

Elektrichestvo, 1958, Nr 4, pp. 69-70 (USSR)

ABSTRACT:

In the operation of multi-plate mercury-arc rectifiers with 4000 A an irregular current distribution between the parallel plates 1 and 7, 2 and 8, 6 and 12 was observed. The measured amperages were: 400 and 740, 440 and 665, 630 and 500 A compared to 550-570 A at the other plates. Because of the overload of the plates 6, 7 and 8 back firing occurred which made it necessary to reduce the load. After closer investigation it was found that the reason for this was to be found in the unequal length of (plate-) leads. One of the methods for balancing the amperages can be the lengthening of the lead passage line. It is sufficient to effect such a lengthening where the ratio of the length of the plate pair

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105-58-4-18/37

The Effect of the Leads on the Current Distribution in Plate Circuits of a Mercury-Arc Rectifier and its Localization.

does not exceed 1,5. More effective and practically also possible is a recombination of the plate pairs. A yearlong operation of the rectifiers with plate-load balancing according to this method takes a normal course. A. Ye. Plyushch, Engineer, proposed a neighbouring location of the plates, e. g. 1 and 12, 2 and 3, 4 and 5, 6 and 7, 8 and 9, 10 and 11. There are 1 figure and 2 tables.

ASSOCIATION: Leningradskoye otdeleniye GPI "Tyazhpromelektroproyekt"
(Leningrad Branch of the GPI "Tyazhpromelektroproyekt")

SUBMITTED: November 14, 1957

AVAILABLE: Library of Congress

Card 2/2

1. Electric current-Distribution 2. Rectifiers-Leads-Effects

BOYCHENKO, V.I., inzh.; BYKOV, B.F., inzh.

Assembling box-shaped bus bars. Nov. tekhn. mont. i spets. rab. v
stroit. 21 no. 7:11-14 J1 '59. (MIRA 12:10)

1. Leningradskoye proyektno-eksperimental'noye otdeleniye
Gosudarstvennogo instituta "Tyazhpromelektroproyekt."
(Bus conductors (Electricity))

BOYCHENKO, V.I.

Strength of welded joints in aluminum bus bars subjected to
short-circuit currents. Elek. sta. 30 no.3:56-57 Mr '59.
(MIRA 12:5)

(Bus conductors (Electricity))

BOYCHENKO, V.I., inzh.

Using argon-arc welding in electric-wiring operations. Mont.1 spets.
rab.v stroi. 22 no.3:8-10 Mr '60. (MIRA 13:6)
(Electric welding) (Electric wiring)

BOYCHENKO, V.I.; GINZBURG, L.P.

Gas-air burner with increased parameters. Gaz. prom. 8 no.7:
36-38 '63. (MIRA 17:8)

BOYCHENKO, V.I., inzh.

Closed coupling of wires with bus conductors. Prom. energ. 18 no.9;
35-37 S '63. (MIRA 16:10)

~~BOYCHENKO, Vladimir Ivanovich; BYKOV, Boris Fedorovich;~~
~~KHROMCHENKO, G.Ie., red.~~

[Joining of aluminum conductors and the connecting of them to electrical equipment terminals] Soedinenie aliu-
minevykh provodnikov i prisoedinenie ikh k vyvodom elek-
trooborudovaniia. Moskva. Energiia, 1964. 75 p. (Biblio-
teka elektromontera, no.13) (MIRA 17:9)

POPOV, A.F., insh.; BOYCHENKO, V.M., insh.

Electric ship propulsion on alternating current. Sudostroenie
ST no. 7:3/36 31 '61. (IIM 14:11)
(Ship propulsion, Electric)

L 15057-66 EWT(d) IJP(c)

ACC NR: AP6002150 (A) SOURCE CODE: UR/0280/65/000/006/0078/0083

AUTHOR: Boychenko, V. M. (Taganrog); Gladkiy, V. S. (Taganrog)

ORG: none

TITLE: Probabilistic simulation of multiplication and involution operations on nonstochastic matrices 16, 44, 55

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1965, 78-83

TOPIC TAGS: nonstochastic matrix, mathematical matrix

ABSTRACT: A method is considered of probabilistic simulation of multiplication and involution (powering) of real general-form matrices by means of random automata; a principal possibility of realization of this method is demonstrated. The above matrices are reduced to equivalent stochastic matrices, and the random automata with absorbing states are analog-simulated. The method permits simultaneous multiplication of any number of matrices. The random-automaton simulation obviates the need for intermediate computations and, hence, for operational storage devices. Orig. art. has: 4 figures and 27 formulas.

SUB CODE: 12 / SUBM DATE: 24Apr65 / ORIG REF: 001

Card 1/1

L 24804-66 : EWT(a)/ IJP(c)

ACC NR: AP6005758 SOURCE CODE: UR/0280/65/000/005/0048/0057

AUTHOR: Boychenko, V. M. (Taganrog); Gladkiy, V. S. (Taganrog)

ORG: none

TITLE: Simulation of operations of stochastic matrices

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 5, 1965, 48-57

TOPIC TAGS: stochastic process, automaton, computer simulation, random process, reliability, Markov process

ABSTRACT: The authors investigate one of the techniques of executing the operation of stochastic matrices by the analog simulation of random transitions in automatons made of "unreliable" contact-relays. A statistical analysis of the state of such an automaton is conducted. The method proposed makes it possible in many cases to substantially reduce programming and computing time with insignificant expenditures. Methods of simulating the reliability characteristics of relays are studied. The investigated methods of analog probability simulation may be extended to the simulation of more complex Markov processes, the simulation of random automatons with a broader input alphabet, and automatons functioning in random stationary and nonstationary media. The realization of random transitions on the controlled probabilistic 1, n-poles is simple, requiring no computations or memorizing of intermediate data in the process of simulation. Orig. art. has: 10 figures and 6 formulas.

SUB CODE: 09, 12/ SUBM DATE: 24Apr65/ ORIG REF: 005/ OTH REF: 001

Card 1/1

L 23341-65 EPR/EWT(m)/EMP(b)/EWA(d)/EWP(t) Ps-4 IJP(c) MJV/TD
ACCESSION NR: AP5001334 S/0128/64/000/012/0004/0005

AUTHOR: Boychenko, V. Ye. (Engineer)

TITLE: High-strength foundry alloy Al4-U 4

SOURCE: Liteynoye proizvodstvo, no. 12, 1964, 4-5

TOPIC TAGS: aluminum alloy, foundry alloy, alloy mechanical testing, zinc contain-
ing alloy, magnesium containing alloy, alloy preparation / alloy Al4-U

ABSTRACT: Alloys with 8-10.5% Si, 0.1-0.50% Mg (in 0.05% steps) and 0.20-1.50% Sn (0.1% steps) are considered. A00 aluminum, SILO silumin, any magnesium and Tsl zinc were used. Mechanical test parameters are given and the results are plotted in comparison with Al4 alloy. The best characteristics ($\sigma_T = 28 - 32 \text{ kg/mm}^2$ and $32 - 34 \text{ kg/mm}^2$ for $\delta = 2 - 6\%$) were exhibited by an alloy (Al4-U) containing 0.25-0.50% Mg, 0.8-1.3% Zn and 8.0-10.50% Si. Mechanical properties are tabulated (see Table 1 of the Enclosure). This alloy also contained 0.25% Cu. The preparation of the alloy is described. It is stated that when the Fe and Cu content are limited, Al4-U possesses improved mechanical properties over Al4 and Al9 and is recommended for their replacement in the casting of heavily loaded objects in chill

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L 23341-68

AGGSSION NR: AP5001334

molds, sand molds and by the centrifugal method. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 01

SUB CODE: PM

NO REF SOV: 000

OTHER: 000

Card 2/3

L 23341-65

ACCESSION NR: AP5001334

ENCLOSURE: 01

① Образцы	⑤ Механические свойства			
	σ _{0.2} кг/мм ²	σ _{0.2} кг/мм ²	σ _{0.2} кг/мм ²	δ %
② Образцы диаметром 6 мм, вырезанные из кольцевых литейных заготовок диаметром 25 мм	22-25	28-31	30-36	4-6
③ Образцы диаметром 12 мм и длиной 60 мм, отлитые в песчаные формы	28-23	25-29	28-32	2-4
④ Плоские, вырезанные из тонкостенных панелей, толщиной 1,5-2,5 мм	27-31	24-29	28-30	1,5-3,0

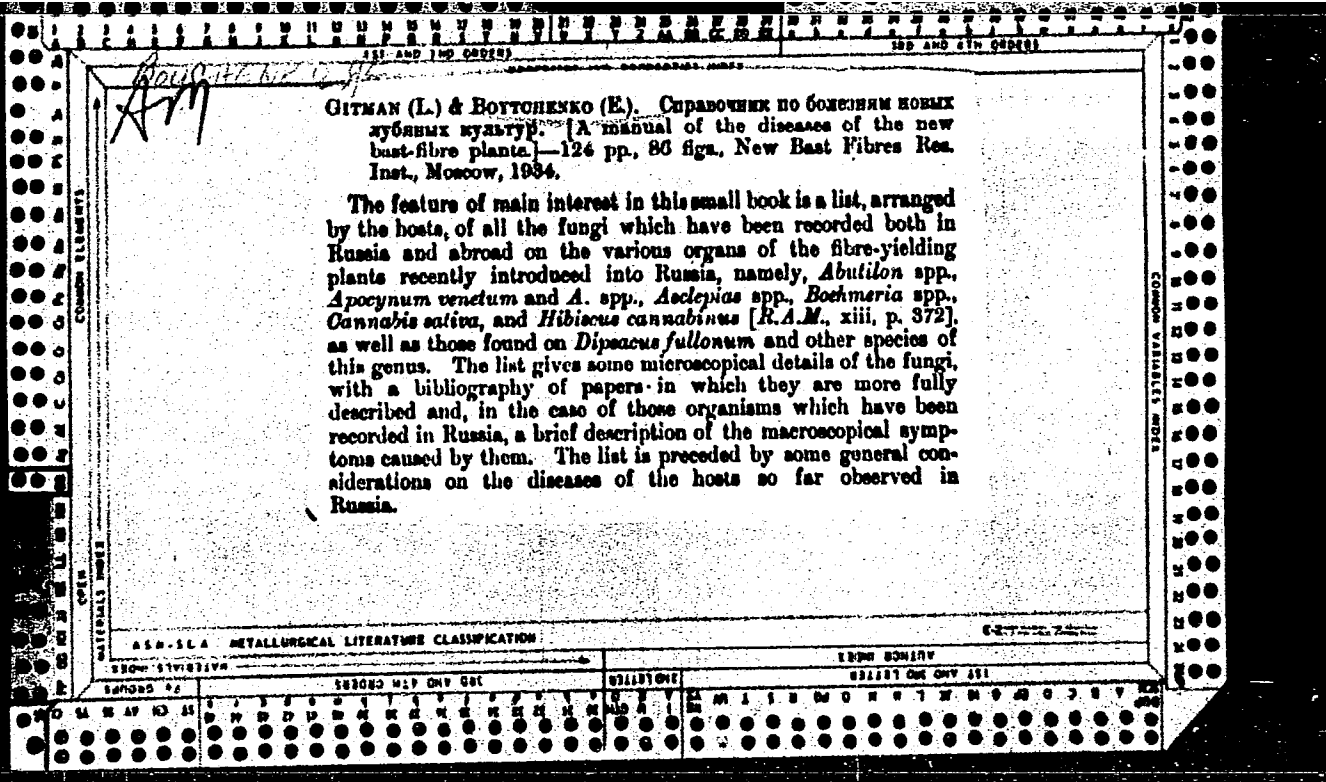
Table 1. Mechanical properties of alloy AlA-U

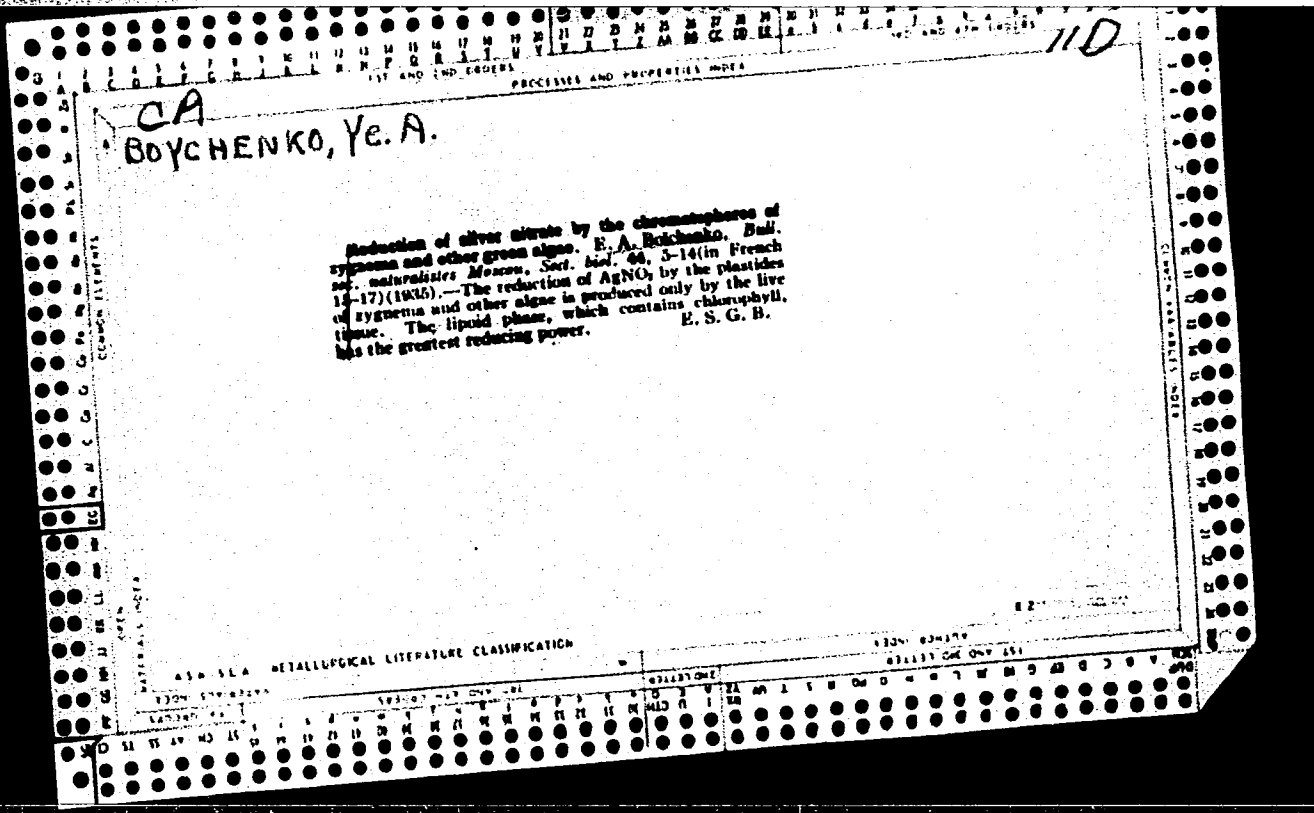
1) Sample; 2) Samples 6 mm in diameter cut from chill-mold blanks 25 mm in diam.; 3) Samples 12 mm in diam. and 60 mm in length, sand cast; 4) Flat samples cut from thick panels, 1.5-2.5 mm thick; 5) Mechanical properties; 6) σ_{0.2} in kg/mm²; 7) σ_{0.2} in kg/mm²; 8) comp. σ_{0.2} in kg/mm²; 9) δ in %.

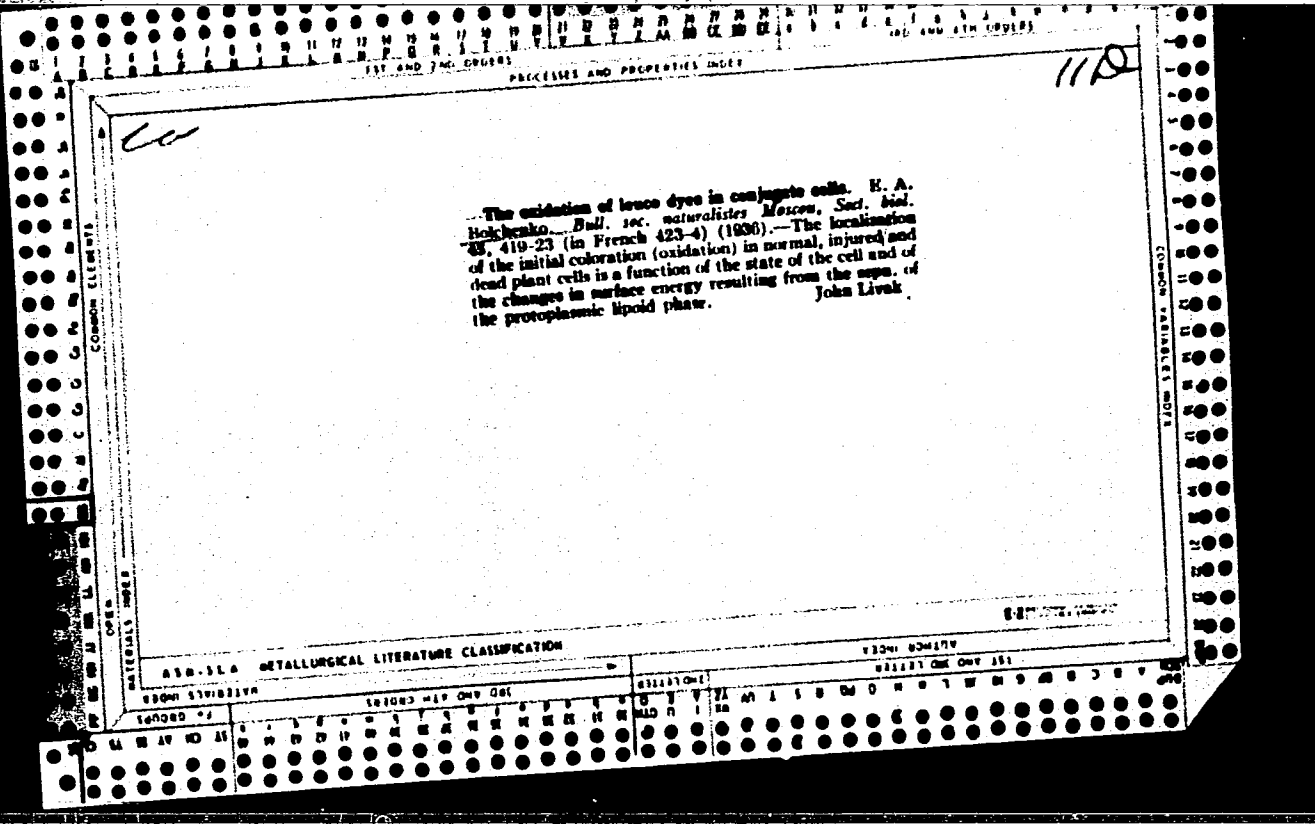
Card 3/3

BOYCHENKO, Ya.M., podpolkovnik

The main thing is the heightening of combat readiness. Vest.
protivovozd.obor. no.10:68-70 0 '61. (MIRA 15:2)
(Russia—Army—Political activity)







1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

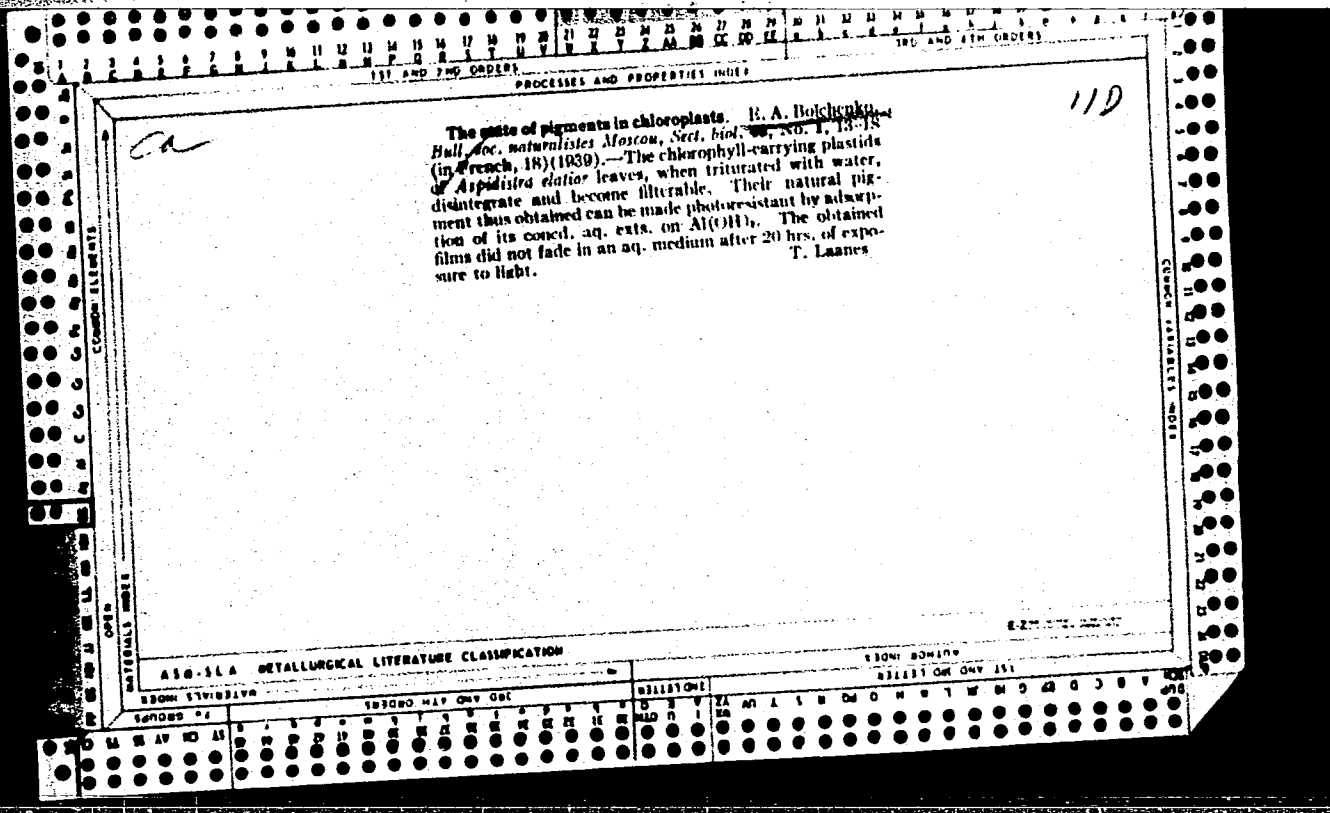
LIST AND THE ORDER OF THE PROCESSES AND PROPERTIES INDEX

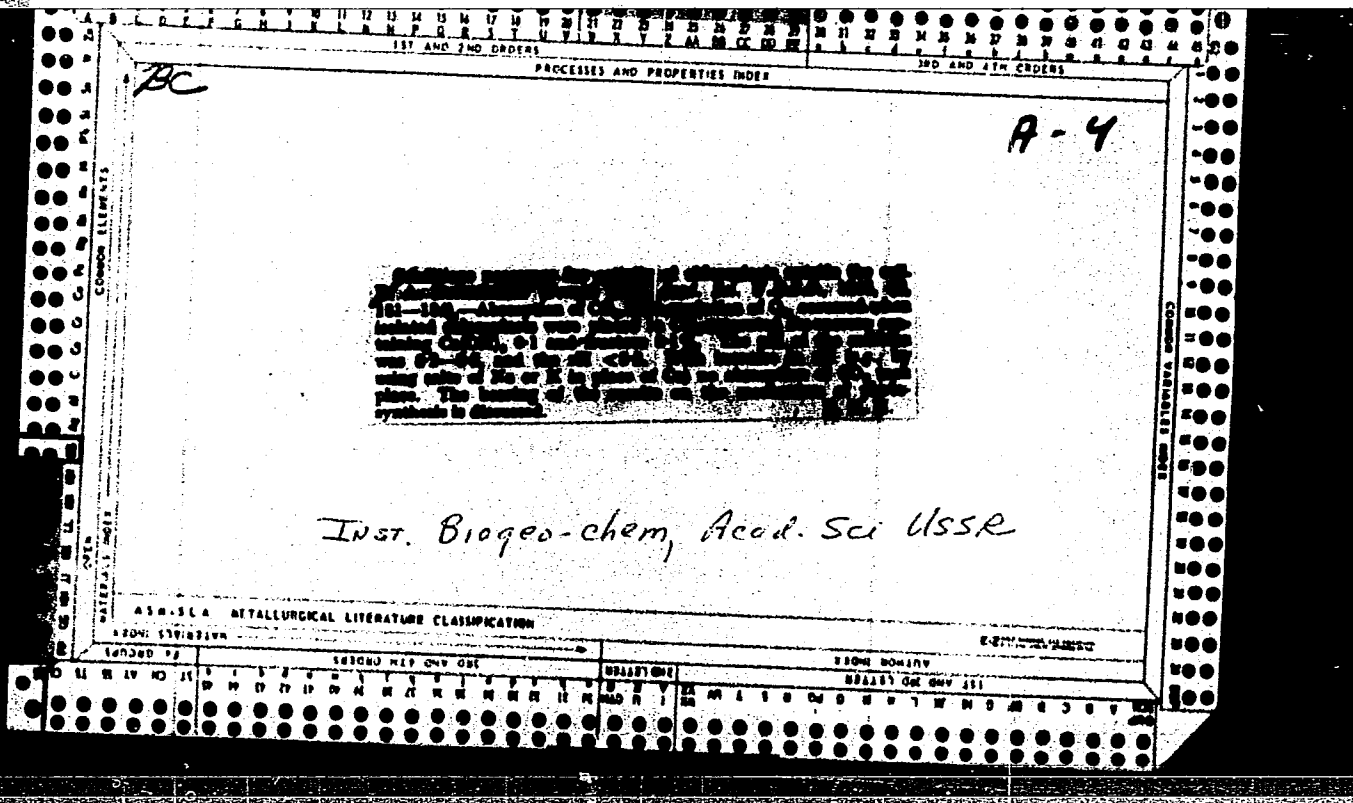
CA *15*

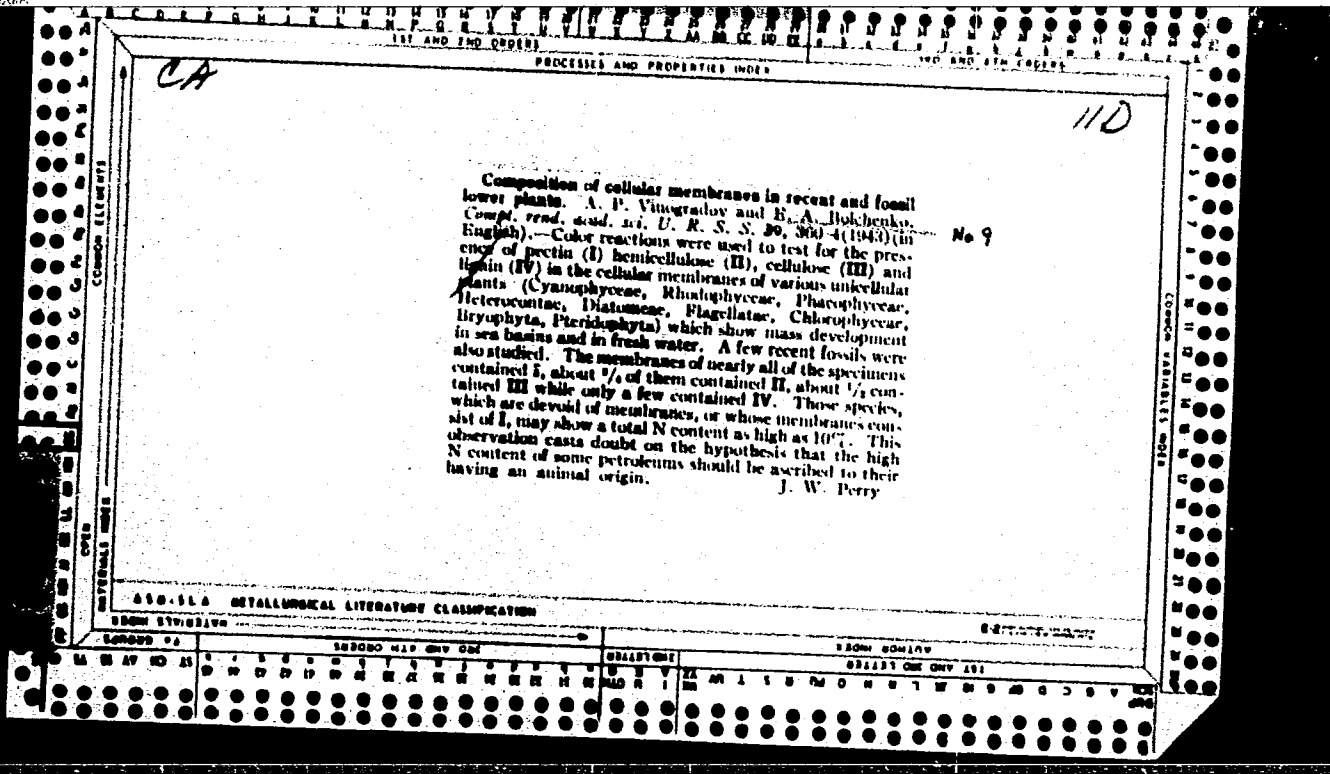
Periodic addition of nitrogen-potassium fertilizers to barley. E. Rukhovich. *Chemisation Socialist. Agr.* (U. S. S. R.) 1959, No. 12, 55-60; *Khim. Referat. Zhur.* 1960, No. 6, 87.—Cultures of barley were grown in Knop nutritive mist. Addn. of increased amts. of N and moderate amts. of K is required during germination, and more of both N and K must be added during the formation of stipes. Increasing the amt. of N-K nutrition during the formation of stipes facilitates the increase of sugars and protein N in the leaves during the blossoming phase; increasing the proportion of K to N increases the sucrose fraction. W. R. Henn

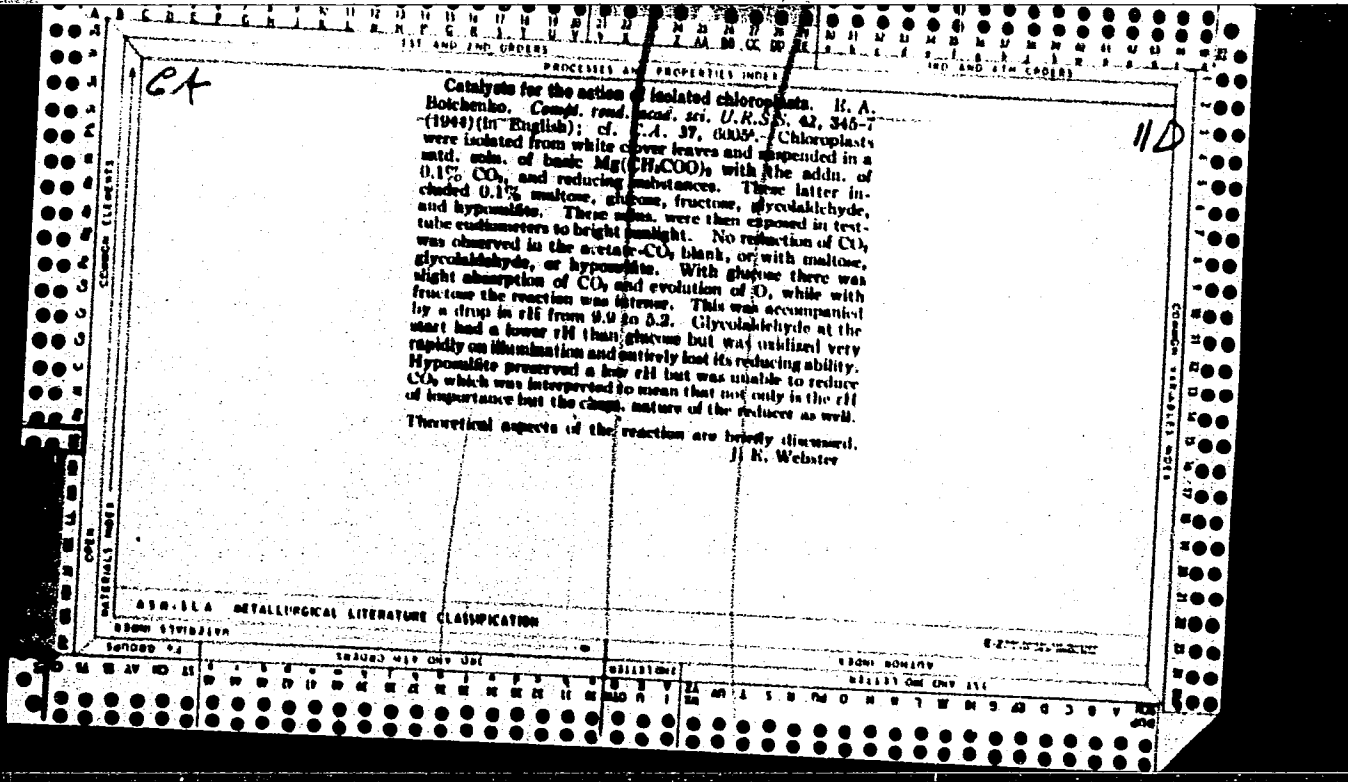
ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100









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11 D

Evolution of hydrogen by isolated chloroplasts. E. A. Hrdchenko. *Compt. rend. acad. sci. U.R.S.S.* 52, 521-4 (1946) (in English); cf. *C.A.* 39, 3569f. — The evolution of H from prepd. chloroplast films was measured in eudiometers in the presence of CaCO₃ and CO₂ and various concns. of glucose. In the dark the formation of H increased with the concn. of glucose. In the light glucose-decompl. when its concn. was over 0.05-0.1%; the evolution of H was greater than in the dark but the formation of acids brought the process to an end. At concns. of glucose below 0.02% the necessary pH was not reached and H was not evolved. Only at a middle concn. of 0.04% when the evolution in the dark was greatly diminished could there be observed in the light an intense formation of H without any decompl. of glucose. This is strictly a photochem. process of decompl. of water for which glucose is a catalyst. After heating, the films lost their capacity to liberate H enzymatically from glucose while the H evolution in light, with 0.04% of sugar, went on at an even higher rate. If the chlorophyll complex is injured, the photochem. evolution of H stops and in a strong light the films begin to ferment glucose and this process is accompanied by H evolution and formation of acid. The O₂ formed in the photochem. reaction was in the form of H₂O₂ which was decompl. by catalase of the chloroplasts. If the H₂O₂ were removed by Ca salts, the evolution of H would go on for hours. To understand photosynthesis the form in which CO₂ is reduced by the H must be studied.

I. T. Sullivan

ASA-ILA METALLURGICAL LITERATURE CLASSIFICATION

320N1 1710312V

389080-17 ONV 021

321131 021 ONV 121

CA

PROCESSES AND PROPERTIES INDEX

Hydrogenase from isolated chloroplasts. D. A. Hincheko. (Acad. Sci., Moscow). *Biokhimiya* 12, 153-62 (1947); cf. *C.A.* 38, 2700; 41, 3177a. —A high hydrogenase content was found in isolated chloroplasts prepd. from white clover and other plants; methylene blue was added to activate the hydrogenase. Under these conditions, the evolution of gaseous H₂ proceeded for many hrs. A study was made of the effect of the nature and concn. of the substrates, of temp., and pH on the rate of H₂ evolution. H. Priestley

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ASM-ISA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

CLASSIFICATION

CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

11a

CA

Activation of hydrogen by the dehydrogenase of chloroplasts. E. A. Bolchenko (Vernadskii Inst., Acad. Sci., Moscow). *Dokl. Akad. Nauk SSSR* 13, 219-24(1948); cf. C.I. 38, 27(MF: 41, 8176a).—The dehydrogenase (H) of chloroplasts is found in a wide variety of green plants. A good source is white clover. With the aid of I, methylene blue, O, and CO₂ are reduced by H. The amt. of absorbed gases is given by the relationship H₂:O₂ = 1:1, and H₂:CO₂ = 1:1. The reduction of CO₂ proceeds even in the absence of O, and yields HCOOH. H. Priestley

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX													COMMON ELEMENTS												
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												

Boychenko, Ye. A.

Doc Biolog Sci

Dissertation: "Reduction of Carbon Dioxide with the Hydrogenase of Chloroplasts."

25 November 49

Inst of Biochemistry in A. N. Bakh, Acad Sci USSR

SO Vecheryaya Moskva
Sum 71

BOYCHANKO, YE. A.

PA 27/49T16

USSR/Chemistry - Carbon Dioxide, Reduction of Feb 49
Chemistry - Hydrogenases, From Chloroplasts

"The Product of Reducing Carbon Dioxide With a
Hydrogenase of Chloroplasts," Ye. A. Boychanko,
Inst Geochem and Anal Chem imeni V. I. Vernadskiy,
Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 4

Hydrogenase of chloroplasts is a ferment that
assists green plants in reducing carbon dioxide by
oxidation of hydrogen. Separates products of this
reduction in various plants, Trifolium repens,
Helianthus, annulus, Nicotiana tabacum, etc.
Submitted 2 Dec 48.

27/49T16

CA

Further investigation of the product of reduction of carbon dioxide by chloroplasts. E. A. Bichsheva (Acad. Sci., U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 70, 1037-40 (1950).—The Fe-contg. complex (C.A. 43, 5452f) which is connected with the reduction process gives a test with 1-naphthol indicating the presence of carbo-hydrates, which are removed by refluxing 3 hrs. with 2.5% HCl. The complex increases its ash content (Ba is used for the isolation) in the course of the reduction process; a similar variation is observed with seasons of the year (high in early spring or late fall). The complex contains at least 2 groups of reducing structures; the primary reduction products are of the formate type

capable of reduction of $HgCl_2$; in the later stages reduction of ferricyanide becomes possible; the former products accumulate during cloudy weather when the progress of the reaction is inhibited. Uronic acids appear to be concerned in the process from the investigation of the carbohydrate-like portion of the complex. Polarographic study of the hydrolysis residuum shows that Fe, as well as traces of Cu and Zn, is organically bound and that at least the Fe-contg. portion represents the prosthetic group of a hydrogenase. The presence of the metals explains the sensitivity of the system to CN poisoning.
G. M. Kosolapoff

CA

Preparation of the products of reduction of carbon dioxide, labelled with carbon¹⁴, by *Chlorella* outside a cell. A. P. Vinogradov, E. A. Reichenko, and V. I. Buranov. *Doklady Akad. Nauk S.S.S.R.*, 79, 327-9 (1951); cf. *C.A.*, 66, 7927b. —Chloroplasts from white clover or primula, isolated from the cells, were examined in CO₂ labelled with C¹⁴ in the presence of 2% O₂ by manometric technique. Control expts. with boiled chloroplasts gave no C¹⁴ activity in the expts., but active chloroplasts gave significant activity, and almost all activity was pptd. by Ba as a complex, which contains 8.5% P and is free of N, consisting largely of carbohydrate-like materials, giving uronic acid reaction, and other carboxylic acids. The latter increase in proportion on cloudy days, the former predominate in specimens taken on sunny days. In prolonged expts. some 70% of the retained C¹⁴ is extractable with EtOH, in the ketone fractions. Thus, the process of reduction proceeds via carboxylic acids which do not reduce Co, then uronic acids, then ketones. G. M. Kozlov

BOYCHENKO, Ye.A.; BARANOV, V.I.; OPARIN, A.I., akademik.

Photoreduction of carbon dioxide tagged with C^{14} , by chloroplasts outside the cell. Dokl. AN SSSR 91 no.2:339-341 J1 '53. (MLRA 6:6)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo Akademii nauk SSSR. 2. Akademiya nauk SSSR (for Oparin).
(Carbon--Isotopes) (Photosynthesis)

BOYCHENKO, Ye. A.
BOYCHENKO, Ye. A.

Importance of iron in enzymatic reactions in the process of
photosynthesis. *Fiziol.rast.* 1 no.1:57-64 S-0 '54.
(MIRA 8:10)

1. Institut geokhimi i analiticheskoy khimii Akad.nauk SSSR,
Moscow
(Photosynthesis) (Plants, Effect of iron on)

BOYCHENKO, Ye. A.

✓ The use of carbon-14 in the study of the primary products of photosynthesis. Ye. A. Boychenko and N. I. Zakharova. *Sovietiya Akad. Nauk S.S.S.R. za Mirnuyu Izdel'sovaniyu Atomnoi Energii* 1955, *Zarubezhnaya Otdel. Biol. Nauk*, 181-95 (English summary, 106-7).—Expts. with $C^{14}O_2$ on leaves and isolated chloroplasts of *Prinula obconica* showed that if the primary products are isolated in iso-osmotic soln. of sucrose at 1-2° with sepa. by centrifugation, the following substances are found: utilization of CO_2 in light begins in substances which are pptd. by Mg_2CO_3 , then C^{14} can be detected in the chloroplasts, and only later in the soln. proper; up to 0.1 mg. assimilated CO_2 can be attained before appearance of radioactivity in the soln. phase. High concns. of C^{14} (0.08% or over) lead to radioactivity in all fractions which is misleading. The primary products, isolated by boiling in H_2O and pptd. with Ba in 80% EtOH, appear to resemble polyhydroxy acids; their hydrolysis gives products which respond to Tollens reagent with naphthoresorcinol; since in fixation such boiling is the usual procedure, the low-mol. materials have been previously reported as the primary products. The residue after hydrolysis is neither protein nor carbohydrate; it is the primary acceptor and it contains 1% Fe. Upon uptake of $C^{14}O_2$ the state of Fe changes: the percentage content of Fe rises (the fraction which is not detd. directly after ashing by the thiocyanate method) detected by detn. after reoxidation of the ash with H_2O_2 . Apparently the assimilation of CO_2 begins by adsorption of it on the Fe atom of the primary acceptor. G. M. K.

MD

①

POYCHENKO, N. H.

... in photosynthesis. E. A. Poychenko, N. I. Zakharova and V. I. Vernadskii (Inst. Geochem. and Analyt. Chem., Acad. Sci. U.S.S.R., Moscow). *Biochim. Biophys. Acta* 21, 374-9 (1958). — By cutting leaves submerged in an isotonic soln. of sucrose and by a pptn. with 80% acetone, the presence of C₁₈ in the pptd. substance resulting from certain plant species has been demonstrated. The substance is of a heterogeneous nature B and Z, under task to isolate from the ppt. the primary products of the process of photosynthesis. A fraction of the ppt. was treated with 100% acetone acidified with conc. HCl. Approx. 20% of the ppt. went into soln. It was then treated with 100% acetone.

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... were performed with leaves of the primrose and the enzyme poison was infiltrated by the vacuum method of Kursanov. Disks cut from the leaves were then placed in diametric vessels in an atmosphere of air, C₁₈ containing. At the same conditions of photosynthesis were obtained. Substances B and Z were isolated. The composition of these plant sugars was isolated. The course of C₁₈ in the process of photosynthesis commences with its reduction into acids R₁ which in their constitution resemble C₁₈H₃₂O₁₆PeP. This substance has double bonds, it does not give carbohydrate reactions. The oxidation-reduction reaction, which leads to the formation of ketonic groups from the H₂C=O, is accomplished in R₁ as it is trans-

Beck, K.

... the no. of normal ketonic groups which appear in
R² after hydrolysis in relation to gram atoms of Fe is 1/1
The R² residue is then broken ...

BOYCHENKO, G. A.

Boichenko, E. A.

USSR / Plant Physiology. General Problems.

H-1

Abs Jour : Ref Zhur - Biol., No 16, 25 Aug 1957, No 68905

Author : Boichenko, E.A., Zakharova, N.I.

Title : Hydroxyacids in Primary Products of Photosynthesis.

Orig Pub : Biokhimiya, 1956, 21, No 5, 623-626

Abstract : Previous authors have established that the primary products of photosynthesis are acids with a molecular weight about 1500 (R^1) containing about 40 C atoms. In the further course of the process, trisaccharides ($R^{1''}$) with 18 C atoms develop from the acids. Utilizing mild methods of treatment, without lengthy boiling with solvents, the authors attempted to elucidate into which functional groups C^{14} enters. Determinations of carboxyl and hydroxyl groups were carried out. The first product (R^1) in which C^{14} was detected was a hydroxy acid composed of 30% carboxyl groups and 60% hydroxyl. In addition, R^1 contained an Fe atom and a P atom. Upon decomposition

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Institut geokhimi i analiticheskoy khimii im V. I. Vernadskogo
akademii nauk SSSR, Moskva.

USSR / Plant Physiology. General Problems.

H-1

Abs Jour : Ref Zhur - Biol., No 16, 25 Aug 57, No 68905

of R' there were obtained products giving reactions for glycerine derivatives. The R' unchanged by treatment did not give a ketone reaction, nor one for carbohydrates, nor for hydroxy acids of the glycerine type. In the authors' opinion, glycerine acids are obtained upon decomposition of R' and are not primary products of photosynthesis. It is possible that the formation of proteins or lipids in photosynthesis starts with transformation of the primary product--R'. The R''' product contained 16% carboxyl groups and 63% hydroxyl. It consists of a trisaccharide containing 1/3 ketose and 2/3 acids of the uronic type which do not reduce Fehling's solution and poorly decarboxylate. The study was carried out in the institute of geochemistry and analytical chemistry, Acad. Sci. USSR. The results of the experiments with C¹⁴ make it possible to assume that R''' is a precursor of free sugars in plants. Bibl. 12 references.

Card 2/2

KURSANOV, A.L., akademik, red.; NICHIPOROVICH, A.A., prof., red.;
KRASHOVSKIY, A.A., prof., red.; HUBIN, B.A., prof., red.;
BOYCHENKO, Ye.A., doktor biol.nauk, red.; OSIPOVA, O.P.,
kand.biol.nauk, red.; KLESHNIN, A.P., red.isd-va; POLYAKOVA,
T.V., tekhn.red.

[Problems of photosynthesis; reports at the Second All-Union
Conference on Photosynthesis, Moscow, Jan.21-26, 1957] Problemy
fotosintezy; doklady na II Vsesoiuznoi konferentsii po foto-
sintezu, Moskva, 21-26 yanvaria 1957 g. Moskva, 1959. 747 p.
(MIRA 12:12)

1. Akademiya nauk SSSR. Otdeleniye biologicheskikh nauk.
(PHOTOSYNTHESIS--CONGRESSES)

BOYCHENKO, Ye.A.; ZAKHAROVA, N.I.

Iron and manganese in photosynthesis. Fiziol.rast. 6 no.1:88-90.
Ja-F '59. (MIRA 12:2)

1. V.I. Vernadskiy Institute of Geochemistry and Analytical Chemistry
U.S.S.R. Academy of Sciences, Moscow.
(Photosynthesis) (Iron) (Manganese)

BOYCHENKO, Ye.A.; SAYENKO, G.N.

Enzymatic reduction of carbon dioxide. *Fiziol.rast.* 6 no.6:
719-721 N-D '59. (MIRA 13:4)

1. V.I.Vernadsky Institute of Geochemistry and Analytical
Chemistry, U.S.S.R. Academy of Sciences, Moscow.
(Photosynthesis)

Boychenko, Ye. A.

- USSR
- BOICHENKO, Ye. A., Dr. - "Chloroplast Enzymes Participating in C₃ Fixation" (Session C)
 - BOICHENKO, Ye. A., Dr., Institute of Biochemistry, USSR Academy of Sciences - "Primary Products of C₃ Assimilation in Photosynthesis" (Session B)
 - BOICHENKO, Ye. A., Dr. - "Photosensitization of Chloroplast Under Heterogeneous Conditions" (Session B)
 - BOICHENKO, Ye. A., Institute of Biochemistry, USSR Academy of Sciences - "The Role of Chloroplast Under Heterogeneous Conditions" (Session B)
 - BOICHENKO, Ye. A., Dr., Institute of Plant Physiology, USSR Academy of Sciences - "Role of Carbon and Nitrogen in Photosynthesis" (Session D)
 - BOICHENKO, Ye. A., Institute of Botany, USSR Academy of Sciences - "Participation of Carotenoids in Reactions of Photosynthesis" (Session C)
 - BOICHENKO, Ye. A., Dr., Institute of Botany, USSR Academy of Sciences - "Relation between Photosynthesis and Respiration" (Session D)

Report to be presented at the 5th Int'l Congress of Biochemistry, Moscow, USSR, 1-16 Aug 61.

BOYCHENKO, YE. A., SAYENKO, G. N., (USSR)

"A Carbon Dioxide-Reducing Lipoflavoprotein
from Plants."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

BOYCHENKO, Ye. A.; SAYENKO, G.N.

Stabilization of primary products of carbon dioxide reduction. *Fiziol.*
rast. 8 no.2:241-243 '61. (MIRA 14:3)

1. V.I. Vernadskiy Institut Geochemistry and Analytical Chemistry,
U.S.S.R., Academy of Sciences, Moscow.
(Photosynthesis)

BOYCHENKO, Ye.A.; SAYENKO, G.N.

Enzymatic photoreduction of carbon dioxide. Dokl. AN SSSR 138 no.6:
1453-1455 Je '61. (MIRA 14:6)

1. Institut geokhimi i analiticheskoy khimii im. V.I. Vernadskogo
AN SSSR. Predstavleno akademikom A.P. Vinogradovym.
(Carbon dioxide) (Reduction, Chemical) (Enzymes)

5.5450
27.1110

30729

S/020/61/141/003/018/021
B103/B101

AUTHORS: Boychenko, Ye. A., and Sayenko. G. N.

TITLE: Study of the product of fermentative reduction of carbonic acid in plants by the alkaline hydrolysis method

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 737 - 739

TEXT: The authors studied CO₂ reduction in the presence of a ferment isolated from the leaves of white clover (*Trifolium repens*) which contains flavin adenine dinucleotide, Fe, and Mn in its active group. Thus, an explanation of direct data of the chemical nature of hydroxy acid containing phosphorus and glycerin was attempted. In photosynthesis, this acid should be the first product of CO₂ reduction. Experiments were conducted at 500 lux and 20° C in air containing 3% of CO₂ labeled with 0.08% C¹⁴O₂. 100 mg of the ferment preparation purified from foreign substances which can be precipitated with acetone ("complex") was used for each experiment; or, the preparation also contained hemoproteins, especially catalase ("acetone deposit"). The latter variation yielded better chromatographical results. After Card 1/5 4

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S/020/61/141/003/018/021
B103/B101

Study of the product of fermentative...

the experiment, the preparation was frozen at dry-ice temperature. Next, 1/3 of it was benzoylated according to Schotten-Baumann, from the second third a barium salt of the product was formed, and the last third was subjected to mild, alkaline hydrolysis: 100 mg was hydrolyzed for 20 min at 37°C in 7.5 milliliters of ethanol, 0.65 milliliters of water, and 0.25 milliliters of 1N NaOH. Fatty acids were thus removed from phospholipids. The residue consisted of various water-soluble molecular components, mainly the corresponding phosphoric esters (Ref. 4, see below). They were further separated by paper chromatography. After hydrolysis, the mixture still has to be alkaline. It was then neutralized with 0.4 milliliters of ethyl formate, and left standing for 5 min at 37°C. After desiccation in vacuo at 60°C, the product was one-dimensionally chromatographed with wedge-shaped paper in butanol + acetic acid, or methanol + formic acid mixtures. After benzoylation, hydroxy acid shows up in a spot when chromatographed in chloroform + methanol; its homogeneity is thus confirmed. Its barium salt also forms a spot in a one-dimensional chromatogram in butanol + acetic acid with $R_f = 0.12$. After alkaline hydrolysis, the product is separated into (a) a molecular residue containing phosphorus, and (b) two fatty acids. The former was identified as glycerophosphoryl ethanol amine. Glycerophosphoryl choline, plasmogenes, phenols, and other substances proved to be

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FORM

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B103/B101

Study of the product of fermentative...

absent. Fatty acids, a component of phosphatide, are probably a preliminary stage of carbohydrate formation. In iodine vapor, the spot of the primary product clearly starts to react for carbohydrates. When three times chromatographed in butanol + acetic acid, one of the fatty acid separates from phosphatide barium salt even without hydrolysis, and a new spot forms which in wedge-shaped chromatograms and with ninhydrin reacts positively for phosphorus. This spot was identified as lysophosphatidyl ethanol amine, and decomposed into glycerol phosphoryl ethanol amine and fatty acids by complete hydrolysis. Other decomposition products, glycerol, phosphoric acid, and ethanol amine can be formed by various hydrolysis methods. Fe which forms part of phosphatidyl ethanol amine is of great importance. The absorption of CO_2 by the complex depends on the Fe amount contained therein. Further CO_2 reduction and the distribution of C^{14} are also closely related to Fe.

Binding of Fe to the acids in the molecule is most probable, possibly according to the type of acyloxy derivatives of some transition metals. The labeled C is to be detected at first in the carboxyl groups. Fermentative CO_2 reduction is complicated and by no means a simple reversal of known respiratory reactions, since C^{14} in this redox reaction is the first sub-

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X

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S/020/61/141/003/018/021
B103/B101

Study of the product of fermentative...

stance to be detected in phosphatidyl ethanol amine. This agrees with data on the chemical nature of photosynthesis by oxygen isotopes. The decomposition course is shown in a diagram. There are 1 figure, 2 tables, and 12 references: 7 Soviet and 5 non-Soviet. The references to English-language publications read as follows: R. Dawson, *Biochem. J.*, 75, 45 (1960); M. Kates, *Biochim. et biophys. acta*, 41, 315 (1960); M. Kates, A. Aulinson, A. James, *Biochim. et biophys. acta*, 48, 571 (1961) M. Matsumoto *J. Biochem. (Tokyo)*, 49, 32 (1961).

ASSOCIATION: Institut geokhimii i analyticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR)

PRESENTED: June 27, 1961 by A. P. Vinogradov, Academician

SUBMITTED: June 24, 1961

Card 4/5 4

BOYCHENKO, Ya. A.; UDEL'NOVA, T. M.

Formation of peroxide and phosphatidylethanolamine in the
enzymatic reduction of carbon dioxide. Dokl. AN SSSR 147 no.6:
1484-1486 D '62. (MIRA 16:1)

1. Institut geokhimi i analiticheskoy khimii im. V. I. Vernadskogo
AN SSSR, Predstavleno akademikom A. P. Vinogradovym.

(Peroxides) (Phosphatidylethanolamine)
(Carbon dioxide)

BOYCHENKO, Ye.A.; UDEL'NOVA, T.M.

Carbohydrate synthesis by plants. Dokl. AN SSSR 151 no.4:959-960
Ag '63. (MIRA 16:8)

1. Institut geokhimi i analiticheskoy khimii im. V.I.Vernadskogo
AN SSSR. Predstavleno akademikom A.P.Vinogradovym.
(Plants--Metabolism)

BOYCHENKO, Ye.A.; UDEL'NOVA, T.M.

Manganese and iron compounds in plants. Dokl. AN SSSR 158 no.2:464-466
S '64. (MIRA 17:10)

1. Institut ge khimii i analiticheskoy khimii im. V.I.Vernadskogo AN
SSSR. Predstavleno akademikom A.P.Vinogradovym.

SAYENKO, G.N.; ZARIN', V.E.; BOYCHENKO, Ye.A.

Formation of photosynthetic peroxide during the reduction of
carbon dioxide in plant leaves. Fiziol.rast. 12 no.6:998-1004
N-D '65. (MIRA 18:12)

1. Institut geokhimi i analiticheskoy khimii imeni V.I.
Vernadskogo AN SSSR, Moskva. Submitted January 11, 1965:

BOYCHENKO, YE. F.

Plant Propagation

Late fall rooting of slips. Les khoz. no. 5, 1952

9. Monthly List of Russian Accessions, Library of Congress, August 1953², Uncl.

1. BOYCHENKO, YE. P.
2. USSR (600)
4. Rostov Province - Landscape Gardening
7. Plantings in the irrigated districts of Rostov Province. Biul.Glav.bot. sada no. 13, 1952

9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Unclassified.

BOYCHENKO, Ye., kandidat sel'skokhozyaystvennykh nauk.

A useful book ("Growing decorative conifers." I.P. Kovtunenکو. Reviewed by E. Boichenko). Zhil.-kom.khoz. 5 no.8:29 '55.(MLBA 9:3)

1. Rukovoditel' sektora zelenogo stroitel'stva Rostovskogo nauchno-issledovatel'skogo instituta Akademiikomunal'nogo khozyaystva.

(Coniferae) (Kovtunenکو, I.P.)

BOYCHENKO, Ye.P.

Exotic plants in Rostov Province. Biul.Glav.bot.sada no.26 '56.
(MLRA 10:2)

1. Botanicheskiy sad pri Rostovskom Gosudarstvennom universitete
im.V.M.Molotova.
(Rostov Province--Plants, Ornamental)

BOYCHENKO, YE. P.
USSR/Cultivated Plants - Decorative.

M-8

Abs Jour : Ref Zhur - Biol., No 3, 1958, 11124

Author : Boychenko, Ye.P.

Inst : -

Title : Exotic Plants Growing in Rostovskaya Oblast'.

Orig Pub : Byul. Gl. Botan. sada. AN SSSR, 1956, No 26, 9-15

Abstract : As a result of an inspection of the tree plantations in Rostovskaya oblast' a number of intensively introduced tree and shrub species have been discovered. Some are foreign and others from different parts of the USSR; they can be used for beautifying cities and workers' villages as well as for planting in protective belts. A list is given of these plants as well as a short description of each.

Card 1/1

BOYCHENKO, Ye.P., kand. sel'skokhoz.nauk

Landscape architectural methods for cities and rural populated places in the Northern Caucasus and lower Volga Valley. Sbor. nauch.trud.RNII AKKH no.2:76-84 '83.

(MIRA 18:10)

1. Rukovoditel' sektora ozeleneniya gorodov Rostovskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva.

BOYCHENKO, Z.I.

Improving the use of basic equipment in organizations of geologic prospecting as factor for increasing labor productivity. Zap.IGI 34 no.3:99-109 '58. (MIRA 12:4)

(Prospecting—Equipment and supplies)

(Mining machinery—Maintenance and repair)

BOYCHENKO, Z.I.

Certification of pharmacists in Kherson Province. Farmatsov. zhur.
18 no.1:86-87 '63. (MIRA 17:10)

1. Upravlyayushchiy aptechnym upravleniyem Khersonskogo oblastnogo
otdela zdravookhraneniya.

Boychenkov, G.A.

007/3062

ISSUE I BOOK REVISIONS

Booklet on problems: teoreticheskiye i eksperimental'nye issledovaniya
prochnosti mashinotekhnicheskikh konstruktsiy; sbornik statei, 779. 5 (Strength
Analysis, Theoretical and Experimental Investigations of the Strength of
Machine Elements); Collection of Articles, No. 3) Moscow, Mashgiz, 1960.
208 p. Prints sily izdaniya. 5,000 copies printed.

Ed.: V.M. Arsenov, Candidate of Technical Sciences; Ed. of Publishing House:
L.S. Smolov; Tech. Ed.: E.I. Medvedev; Moscow: MA for Literature on
General Technical and Transport Machine Building (Mashgiz); A.P. Kostov,
Engineer; Editorial Board: G.S. Glushkov, Doctor of Technical Sciences,
Professor; V.M. Makushin, Candidate of Technical Sciences, Dozent (Secretary);
S.B. Korotkiy, Honored Scientist and Technologist of the USSR, Doctor of
Technical Sciences, Professor; S.Y. Sereshev, Member of the Academy of Sciences
USSR, Doctor of Technical Sciences, Professor; S.M. Sobolov, Doctor of
Technical Sciences, Professor; E.P. Tarabov, Doctor of Technical Sciences,
Professor; and Ye.J. Zhurav, Honored Scientist and Technologist of the
USSR, Professor (Chairman).

PREFACE. The book is intended for engineers and scientists specializing in stress
analysis.

CONTENTS. This collection of 15 articles deals with the design and calculation of
machine elements for strength, rigidity, and stability. The collection is
divided into three sections: 1) calculation for strength, 2) stress and strain
analysis, and 3) calculation for stability. Methods and formulas for calculating
strength parameters are presented. In parentheses are mentioned. References
follow several of the articles.

Trushchak, V.P. [Candidate of Technical Sciences].
Photoelastic Investigation of Stress Distribution in Specimens
Loaded Under Their Own Weight
Use of photoelasticity in determining the effects of stress
concentration and the intensity and direction of the principal
stresses in selected models are outlined.

SECTION III. CALCULATIONS FOR STABILITY
AND FOR STABILITY OF CONSTRUCTIONAL ELEMENTS

286

Mokshin, V.M. One Case of Stability Calculated for a Compressed
Annular Disk
An individual case of experimental stress analysis is reported.
It involves the loading of a compressed annular disk (circular
plate). Critical load coefficients are deduced and conditions
for stability defined.

289

Trupinin, I.I. [Candidate of Technical Sciences, Dozent].
Stability Conditions for a Thin Conical Shell Closed at
Top and Under Lateral Hydrostatic Pressure
Stability conditions for a submerged thin-walled conical
shell exposed to hydrostatic pressure acting sideways upon
the cone are analyzed and load limits prior to buckling defined.

299

Polovin, V.Y. [Doctor of Technical Sciences, Professor], and G.A.
Boychenkov [Candidate of Physics and Mathematics, Dozent].
Investigation of the Phenomenon of Snapping [Local "Elastic" Loss
of Stability] in Thin Shells Under the Impact of Dynamic Load
Local buckling-snapping stresses affecting thin-walled elastic
shells are analyzed and equations for stability conditions
derived.

273

Shestakov, A.A. [Dozent]. The Problem of Determining Critical
[Whirling] Speeds of a Shaft of Variable Cross Section
Values for critical speeds of a rotating shaft are derived and the
effects of deflecting forces analyzed.

BOYCHENKOVA, N.G., dotsent; FILKOV, N.S., dotsent.

Effect of a brief rise in body temperature on the evacuatory
function of the abomasum. Veterinariia 30 no.7:40-41 Jy '53.
(MLBA 6:7)

1. Dagestanskiy sel'skokhoyazyatvennyy institut.

BOYCHEV, Boycho CONFORTY, B. TCHOKANOV, K.

Orthopedic Operations in Traumatology 1958, 2d Edition (Bulg.)

BOYCHEV, B., prof.

Lesions of the shoulder joint; according to literature data.
Ortop., travm.i protez. 23 no.6:74-77 Je '62. (MIRA 15:9)

1. Chlen-korrespondent Bolgarskoy Akademii nauk.
(SHOULDER JOINT—WOUNDS AND INJURIES)

EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

792. (240) OSTEOTOMY OF THE SPINE (Russian text) - BoYchev B. - OR-
TCP. TRAVM. I PROTEZ. 1956, 5 (31-36)
Osteotomy of the spine may be advised in cases of kyphosis when the th process
has become quiescent. It is a corrective operation and is only curative in so far
as it improves the posture and reduces the strain on the joints of the lower limbs.
A case is reported in which, 3 months after operation, the patient was able to walk
in a plaster-of-paris jacket freely and painlessly, in the erect posture. (S)

BOYCHEV, B., prof. (Sofiya)

Course of development of orthopedics and traumatology in Bulgaria.
Ortop.travm. i protez. 19 no.3:73-76 My-Je '58 (MIRA 11:7)

(ORTHOPEDICS,

in Bulgaria (Rus))

(WOUNDS AND INJURIES,

traumatol. in Bulgaria (Rus))

BOYCHEV, B., prof.

Late results following the author's surgical technic in congenital
dislocation of the patella. Ortop.travm. i protez. 20 no.6:34-36
Jo '59.

(MIRA 13:3)

(KNEE, disloc.

congen. of patella, surg. (Rus))

BOYCHEV, B.

Surgical treatment of pseudarthroses of the tubular bones. Vest.
khir. 84 no. 2:83-87 F '60. (MERA 14:1)
(PSEUDARTHROSIS)

BOYCHEV, D.; RIZVANOV, K.

Relation of *Botrytis cinerea* Pers. to ixodid ticks. Zool.zhur. 39
no.3:462 '60. (MIRA 13:6)

1. Chair of Zoology and Microbiology, Higher Agricultural Institute,
Sofia.

(TICKS--BIOLOGICAL CONTROL) (FUNGI, PHYTOPATHOGENIC)

SHEVCHENKO, V.D.; PYSLIAR, V.G.; DENEZHNYI, D.T.; BOYCHEV, K.M.

Device for filling vessels with lubricating greases. Trudy
BONMZ no.1:7-11 '63. (MIRA 16:6)

(Lubrication and lubricants)

BOYCHEVSKAYA, N.O. (Moskva, Bol'shaya Dorogomilovskaya, 1, kv.6); GRINBERG, A.A.
KOMAROV, B.D.

Kidney function before and following reconstructive surgery of the
abdominal aorta. Vest. khir. 92 no.1:44-47 Ja '64. (MIRA 17:11)

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Bulgaria /Chemical Technology, Chemical Products
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I-31

Fermentation industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32921

Author : Boychinov At.

Title : Losses During Various Stages of Wine Manufacture.

Orig Pub: Lozarstvo i vinarstvo, 1956, 5, No 4, 226-232

Abstract: Consideration of the causes which bring them about and of ways of reducing the losses during shipping and processing of grapes, fermentation and storage of wine. Yields of alcohol are reported, depending on the grape variety, race of yeast and aeration during fermentation. The highest yield of alcohol is produced by

Card 1/2